

RESEARCH ARTICLE

Changes in Intrinsic and Extrinsic Values During the Early Months of the COVID-19 Pandemic: Evidence from Business Faculty Students

Fatih Sonmez¹ 

Abstract

Aimed at exploring value shifts during the early months of the COVID-19 pandemic, this paper compares data from business faculty students at a public university in northwestern Türkiye on seven life values immediately before (November-December 2019) and during the early months (May-June 2020) of the pandemic. The study measured the importance individuals attached to life values using the Aspiration Index (Kasser & Ryan, 1996), which includes three intrinsic values (i.e., personal growth, meaningful relationships, and community contributions), three extrinsic values (i.e., wealth, fame, and image), and the value of physical health. The study found that both men and women decreased the importance they placed on the values of wealth and fame in the early months of the pandemic. In addition, men increased the importance they placed on community contributions. The study also explored changes in the overall means for the intrinsic and extrinsic value clusters and in the relative importance intrinsic values have to extrinsic ones. The results showed a statistically significant increase in men's espousal of intrinsic values and a decrease in women's espousal of extrinsic values. The change in the relative importance of intrinsic to extrinsic values was significant for both genders, suggesting that both men and women became more intrinsically oriented during the early months of the pandemic.

Keywords: COVID-19 pandemic • Goal contents theory • Self-determination theory • Value changes • Value orientation • Value shifts

1 Fatih Sonmez (Dr.), Department of Business Administration, Muş Alparslan University, Muş, Türkiye.

Email: fsonmez.phd@gmail.com ORCID: 0000-0002-4054-0269

To cite this article: Sonmez, F. (2023). Changes in intrinsic and extrinsic values during the early months of the covid-19 pandemic: Evidence from business faculty students. *Istanbul Üniversitesi Sosyoloji Dergisi*, 43, 447-458. <https://doi.org/10.26650/SJ.2023.43.2.0067>

Values are guiding principles that inform attitudes and shape human conduct. Thus, values can predict a broad array of human attitudes and behaviors, such as political behavior (Purkayastha et al., 2011; Vecchione et al., 2015), prosocial behavior (Caprara & Steca, 2007; Daniel et al., 2015), ethical behavior (Fritzsche, 1995; Fritzsche & Oz, 2007), sexual behavior (Gao et al., 2012; Goodwin et al., 2002), consumption behavior (Doran, 2009; Lee et al., 2014), and parenting behavior (Aavik et al., 2006; Gaunt, 2005).

Values are relatively stable characteristics (Schuster et al., 2019; Vecchione et al., 2013, 2016, 2020), but they can and do change over time, especially at younger ages (Krosnick & Alwin, 1989; Alwin & Krosnick, 1991; Dinas, 2013). In most cases, value changes result from life-changing events such as wars (Bègue & Apostolidis, 2000; Daniel et al., 2013; Priest et al., 1982), near-death experiences (Kinnier et al., 2001; Noyes Jr, 1980; Sutherland, 1990), terrorist attacks (Murphy et al., 2004, 2006), major life transitions (Bardi et al., 2014; Goodwin et al., 2012; Katz-Wise et al., 2010), and natural disasters (Oishi et al., 2017; Nishio et al., 2014).

The COVID-19 pandemic is one such event that caused unprecedented changes in human life and has the potential to alter human values in the future. Indeed, although few in number, several studies have documented value changes during the pandemic. For example, Daniel et al. (2022) analyzed a longitudinal dataset in which values were measured using the Schwartz Best Worst Values Refined Survey (Lee et al., 2019), finding an increase in the higher order conservation values and a decrease in the openness to change values during the early months of the COVID-19 pandemic, especially among worried individuals. Similarly, another longitudinal study found that the relative importance of environmental values decreased significantly between April-December 2020 (Sneddon et al., 2022).

More relevant to the current investigation, a strategy and planning agency, the Zeno Group (2020), surveyed 1,000 Americans in March 2020 and found shifts in values that can be considered intrinsic or extrinsic in accordance with the distinctions from goal content theory (more details in the next section). The results from the Zeno Group's survey showed that intrinsic values such as self-reliance, helpfulness, simplicity, honesty, and personal relationships gained higher priority, while extrinsic values such as power, status, and wealth decreased in importance during the early months of the COVID-19 pandemic. The present study explores the value shifts that occurred during the early months of the pandemic in terms of values similar to those investigated by Zeno Group, namely personal growth, meaningful relationships, community contributions, wealth, fame, image, and physical health.

Methodology

The present study explores value shifts during the early months of the COVID-19 pandemic by comparing data on seven life values as collected from a small population

(i.e., business faculty students at a public university in northwest Türkiye) immediately prior to and at the onset of the pandemic.

Measuring Values

Values were measured via the 35-item Aspiration Index (AI; Kasser & Ryan, 1996), which has recently been validated in the Turkish context (Sonmez, 2023). The AI draws from self-determination theory and involves seven different values. Self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) distinguishes between intrinsic and extrinsic motivation. Intrinsic motivation refers to motivation that arises within the individual for doing an activity, purely for the sake of the activity itself. Intrinsically motivated behavior is not contingent on external rewards or punishments, as the activity itself is the reward. In contrast, extrinsic motivation refers to motivation that is driven by external factors such as rewards or punishments. Drawing from self-determination theory, Kasser and Ryan (1996) identified intrinsic and extrinsic values based on their relations to intrinsic/extrinsic needs and proposed the Aspiration Index, which assesses the importance individuals place on each value on a response scale ranging from “not at all important” to “very important” and enables one to calculate the relative importance of intrinsic values over extrinsic ones or vice versa. In addition to the importance given to each life goal/value, researchers can also measure individuals’ beliefs about the likelihood of attaining these goals in the future, as well as the current level of attainment.

The AI consists of three intrinsic values: personal growth (e.g., growing and learning new things), meaningful relationships (e.g., being in a committed, intimate relationships), and community contributions (e.g., working for the betterment of society); and three extrinsic values: wealth (e.g., being a very wealthy person), fame (e.g., being admired by many people), and image (e.g., having an image that others find appealing). Lastly, the seventh value the AI measures is physical health (e.g., being physically healthy), but this value is usually not taken into consideration when determining the relative importance of intrinsic/extrinsic values as it does not distinctly relate to either the intrinsic or extrinsic value categories. However, this value is highly relevant in the context of the current study. Intrinsic and extrinsic values are calculated by averaging out the scores for the 15 intrinsic and 15 extrinsic value items. The relative importance of intrinsic to extrinsic values (i.e., relative intrinsic value orientation [RIVO]) is calculated simply by subtracting the mean for the extrinsic values from the mean for the intrinsic values. Thus, a higher score on RIVO would indicate a stronger relative intrinsic value orientation, whereas a lower score would indicate a weaker relative intrinsic value orientation.

Data

Pre-Pandemic Data. The pre-pandemic data were collected in two separate cross-sectional studies conducted between November-December 2019. Participants were

business faculty students at a public university in northwest Türkiye. The participants were at least 18 years old and had enrolled in several business courses. Data were collected in classrooms using questionnaire packets. Participation was voluntary and provided neither monetary compensation nor course credits. The AI was placed at the beginning of the packet in one of the studies after the informed consent section and the questions on age and gender. The other cross-sectional study involved a short vignette with three questions and a single-item life evaluation measure for the purposes of unrelated research following the informed consent section and questions on age and gender. In both studies, the participants responded to the AI on a 7-point Likert-type scale ranging from 1 (“Not at all important”) to 7 (“Very important”). The packets were distributed in unrelated classes with the aim of recruiting different participants for each study, as these studies were interrelated. Still, the dataset may have included a negligible number of duplicate participations. Forms containing less than three observations in any of the value categories represented in the AI were not included in the dataset. As a result, 473 usable forms were obtained (52.7% are female; $M_{\text{age}} = 22.1$, $SD = 3.54$). Missing datum regarding any construct on the AI was replaced by the mean of the participant’s responses to the other items measuring the given construct.

Early-Pandemic Data. The early-pandemic data were also collected as part of a cross-sectional study between May 23-June 12, 2020. The study was conducted at the same faculty, and the invitations were sent to the students of the same departments as those in the pre-pandemic studies. Therefore, this study is considered to have recruited a significant proportion of the same participants from the pre-pandemic studies. Participants were at least 18 years old and had enrolled in several business courses. Participation was voluntary and was compensated for neither monetarily nor with course credits. The participants were invited to participate in the study by an invitation letter posted to their student information systems. The invitation letter told the students how the study would investigate college students’ general attitudes and provided them with the link to the associated survey on Qualtrics™. Upon clicking the survey link in the invitation letter, participants first viewed the informed consent, with those who accepted it proceeding to the survey. In the survey, participants first indicated their age and gender and then proceeded to the next page to respond to an 18-item version of the AI, which contains 11 items identical to those in the 35-item version, on a 5-point Likert-type scale ranging from 1 (“Not at all important”) to 5 (“Very important”) for the purpose of an international replication project. They then proceeded to the following page where they responded to four short close-ended questions regarding environmental attitudes for the same replication project. After this, the participants responded to the remaining 24 items of the 35-item AI using the same 5-point Likert-type scale. A total of 271 students participated in the study. Of these, 23 dropped out before completing the AI, five were international students, and 12 failed the attention check. Excluding these cases results in 231 usable forms (69.3% are female; $M_{\text{age}} = 21.38$, $SD = 2.3$).

Note that two main differences occur between the pre- and early-pandemic data. First, the pre-pandemic data were collected in person, whereas the early-pandemic data were collected online due to the suspension of face-to-face education at the time. Second, the pre-pandemic data were collected using a 7-point Likert-type scale, whereas the early-pandemic data used a 5-point Likert-type scale. As a result, the study linearly transformed the early-pandemic data to a 7-point Likert-type scale to enable a comparison.

Ethical Statement. One of the pre-pandemic studies did not require ethics approval as it was a low-risk, non-interventional study requiring no sensitive or identifying information. However, the other pre-pandemic study and the early-pandemic study both involved psychological interventions, and ethics approval for their procedures were obtained from the Social and Humanities Ethics Committee of Sakarya University.

Findings

After combining the pre- and early-pandemic data, the value changes for men and women were analyzed separately. The results from the *t*-tests show no statistically significant changes for women to be found regarding the importance of image ($p = .73$), meaningful relationships ($p = .31$), personal growth ($p = .28$), community contribution ($p = .14$), or health ($p = .30$), while statistically significant decreases did occur for women regarding the importance of wealth ($t_{(404)} = 3.52, p < .001, d = .36$) and fame ($t_{(404)} = 3.07, p = .002, d = .31$) upon reaching the early months of the pandemic. A similar pattern of results was observed for men, with the exception of the community contribution value. No statistically significant changes occurred regarding the importance of image ($p = .5$), meaningful relationships ($p = .75$), personal growth ($p = .15$), or health ($p = .16$), while statistically significant decreases occurred regarding the importance of wealth ($t_{(290)} = 2.18, p = .03, d = .3$) and fame ($t_{(290)} = 2.64, p = .009, d = .36$) and a statistically significant increase regarding the community contribution ($t_{(290)} = -2.83, p = .005, d = .39$) upon reaching the early months of the pandemic. Table 1 provides the relevant descriptive statistics and *t*-test results.

I argue the reason for the non-significant changes regarding intrinsic values to be the ceiling effect. In other words, the rated importance of intrinsic values was so high before the pandemic that there was no room for further increase. All intrinsic values, as well as the health value, had mean scores of above six on the 7-point Likert-type AI scale for men and women before the pandemic, apart from men's score for the community contribution value, which I think is the reason for its statistically significant increase. As a result, the study went on to explore the changes in intrinsic and extrinsic values both cumulatively and relatively. More specifically, I checked both whether changes had occurred regarding the overall means of the intrinsic and extrinsic value

clusters and whether the relative importance of intrinsic to extrinsic values had changed. This analysis revealed a statistically significant decrease to have occurred in extrinsic values ($t_{(404)} = 2.41, p = .017, d = .25$) without any significant difference in intrinsic values ($p = .41$) for women. As for the men, a statistically significant increase occurred regarding intrinsic values ($t_{(290)} = -2.13, p = .034, d = .29$) without any significant difference in extrinsic values ($p = .065$), although the p -value was close to the conventional level of significance. Therefore, the difference between intrinsic and extrinsic value clusters had increased for both genders, which resulted in a statistically significant increase in RIVO for both men ($t_{(290)} = -2.81, p = .005, d = .39$) and women ($t_{(404)} = -2.61, p = .009, d = .27$).

Table 1
Results from the t-Tests for Changes in the Importance Women and Men Place on Life Values During the Early Months of the COVID-19 Pandemic

Value	Gender	Term	n	Mean	SD	t-test			
						Mean Difference	SE	t	p
Wealth	Women	Pre-pandemic	246	4.88	1.25	0.44	.13	3.52	.000
		Early-pandemic	160	4.43	1.23				
	Men	Pre-pandemic	221	5.18	1.27	0.37	.17	2.18	.030
		Early-pandemic	71	4.81	1.16				
Fame	Women	Pre-pandemic	246	3.32	1.49	0.45	.15	3.07	.002
		Early-pandemic	160	2.87	1.37				
	Men	Pre-pandemic	221	3.70	1.47	0.52	.20	2.64	.009
		Early-pandemic	71	3.18	1.42				
Image	Women	Pre-pandemic	246	3.91	1.35	-0.05	.13	-0.35	.728
		Early-pandemic	160	3.96	1.25				
	Men	Pre-pandemic	221	3.92	1.28	-0.11	.17	-0.67	.503
		Early-pandemic	71	4.03	1.07				

Meaningful Relationships	Women	Pre-pandemic	246	6.64	0.57	0.06	.06	1.01	.311
		Early-pandemic	160	6.58	0.62				
	Men	Pre-pandemic	221	6.41	0.74	-0.03	.10	-0.32	.747
		Early-pandemic	71	6.45	0.75				
Personal Growth	Women	Pre-pandemic	246	6.33	0.65	-0.07	.06	-1.09	.277
		Early-pandemic	160	6.40	0.63				
	Men	Pre-pandemic	221	6.16	0.79	-0.16	.11	-1.46	.145
		Early-pandemic	71	6.32	0.77				
Community Contribution	Women	Pre-pandemic	246	6.13	0.84	-0.13	.09	-1.47	.143
		Early-pandemic	160	6.25	0.86				
	Men	Pre-pandemic	221	5.75	1.04	-0.40	.14	-2.83	.005
		Early-pandemic	71	6.15	1.03				
Physical Health	Women	Pre-pandemic	246	6.52	0.66	0.07	.07	1.05	.296
		Early-pandemic	160	6.45	0.67				
	Men	Pre-pandemic	221	6.29	0.83	-0.15	.11	-1.39	.164
		Early-pandemic	71	6.44	0.76				
Intrinsic	Women	Pre-pandemic	246	6.37	0.54	-0.05	.05	-0.83	.406
		Early-pandemic	160	6.41	0.54				
	Men	Pre-pandemic	221	6.11	0.66	-0.20	.09	-2.13	.034
		Early-pandemic	71	6.30	0.72				
Extrinsic	Women	Pre-pandemic	246	4.04	1.18	0.28	.12	2.41	.017
		Early-pandemic	160	3.75	1.12				
	Men	Pre-pandemic	221	4.27	1.05	0.26	.14	1.85	.065
		Early-pandemic	71	4.01	0.96				
Relative Intrinsic Value Orientation (RIVO)	Women	Pre-pandemic	246	2.33	1.24	-0.33	.13	-2.61	.009
		Early-pandemic	160	2.66	1.23				
	Men	Pre-pandemic	221	1.84	1.22	-0.46	.16	-2.81	.005
		Early-pandemic	71	2.30	1.11				

I also compared the gender differences with regard to the importance of seven life values before and during the early months of the pandemic. The results show that prior to the pandemic, women had statistically significantly higher scores for the importance of meaningful relationships ($t_{(465)} = 3.69, p < .001, d = .34$), personal growth ($t_{(465)} = 2.55, p = .011, d = .24$), community contribution ($t_{(465)} = 4.28, p < .001, d = .4$), and health ($t_{(465)} = 3.27, p = .001, d = .3$) and statistically significantly lower scores for the importance of wealth ($t_{(465)} = -2.6, p = .01, d = .24$) and fame ($t_{(465)} = -2.77, p = .006, d = .26$) compared to men (but no significant difference for the image value, $p = .95$). As a result of these differences, women had a statistically significantly higher mean score for the intrinsic values cluster ($t_{(465)} = 4.61, p < .001, d = .43$) and a statistically significantly lower mean score for the extrinsic values cluster ($t_{(465)} = -2.23, p = .026, d = .21$); therefore, women had a statistically significantly stronger RIVO ($t_{(465)} = 4.29, p < .001, d = .4$). These results suggest that women had a much healthier configuration of values than men prior to the pandemic. With the emergence of the pandemic, however, the gender differences regarding all values except wealth ($t_{(229)} = -2.2, p = .029, d = .32$) had disappeared. The difference in the means for the intrinsic and extrinsic values clusters also turned non-significant ($p = .21$ and $p = .1$, respectively). The difference in RIVO was still statistically significant in favor of women, but with a smaller effect size than before the pandemic ($t_{(229)} = 2.11, p = .036, d = .31$). The weakened difference between the pre- and early-pandemic RIVOs was apparently due to the proportionally higher increase in men's espousal of intrinsic values during the early months of the pandemic. These results suggest that men began to reorient toward intrinsic values with the emergence of the COVID-19 pandemic, though they were still not as intrinsically oriented as women.

Discussion and Conclusion

This study found that both men and women decreased the importance they placed on money and fame during the early months of the pandemic. Moreover, men increased the importance they placed on community contribution and also exhibited an increase in the overall importance of intrinsic values, whereas no significant change occurred regarding women's espousal of intrinsic values, most likely due to the ceiling effect. However, the decrease in the importance of extrinsic values for women was statistically significant. A comparable decline was found regarding the importance men placed on extrinsic values; however, this decrease was marginally above the conventional level of statistical significance, most likely due to the low statistical power. When examining the relative importance of intrinsic values to extrinsic ones, I found that both men and women had a statistically significantly increased RIVO level.

These results suggest that both men and women became more intrinsically oriented during the early months of the COVID-19 pandemic than immediately before, either by increasing the importance they placed on intrinsic values, decreasing the importance

of extrinsic values, or both. This shift in values shows that the pandemic had changed what people prioritize, at least during its onset. Dealing with a life-threatening disease probably urged people to reconsider what they value in life and helped them realize the triviality of mundane, worldly values.

Research shows that an intrinsic value orientation improves individuals' wellbeing by satisfying their basic psychological needs (Ryan et al., 1996; Deci & Ryan, 2000). Furthermore, intrinsically oriented individuals are more protected from thoughts of death (Vail III et al., 2019; Sonmez, 2022). This reorientation toward intrinsic values may have helped individuals deal more effectively with the adversities of the pandemic and maintain their wellbeing during its early months.

Although this study found evidence for changes in value priorities during the early months of the COVID-19 pandemic, whether these shifts were maintained over the following months remains unanswered. Daniel et al.'s (2022) study examining a longitudinal dataset found the changes in some values during the early months of the COVID-19 pandemic to have been maintained throughout the following months, while other values had returned to their pre-pandemic levels. Therefore, whether the changes observed in the current sample had been maintained in the following months when the pandemic had become an entrenched part of daily human life is hard to judge. I leave this inquiry for future research. Finally, as with all studies, this one has several limitations. The study's main limitations are the difference between the 5-point and 7-point Likert-type scales for measuring values in the pre- and early-pandemic data, the study's cross-sectional design, and the student sample. Future research might also consider addressing these issues.

Ethical Approval: The ethics committee approval of this study was obtained from Social and Humanities Ethics Committee of Sakarya University (Date: 20.07.2020; Number: 2020/1023).

Informed Consent: Verbal informed consent was obtained from all participants before the study.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The author declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Grant Support: The author received no financial support for the research, authorship, and/or publication of this article.

Data Availability: The data that support the findings of this study are openly available in OSF at <https://osf.io/j3p9y>

References

- Aavik, A., Aavik, T., & Kõrgesaar, J. (2006). Parenting practices and personal values comparisons between parents of institutionalized and non-institutionalized adolescents. *TRAMES: A Journal of the Humanities & Social Sciences*, 10(1), 44–56. <https://doi.org/10.3176/tr.2006.1.04>
- Alwin, D. F., & Krosnick, J. A. (1991). Aging, cohorts, and the stability of sociopolitical orientations over the life span. *American Journal of Sociology*, 97(1), 169–195. <http://www.jstor.org/stable/2781642>
- Bardi, A., Buchanan, K. E., Goodwin, R., Slabu, L., & Robinson, M. (2014). Value stability and change during self-chosen life transitions: Self-selection versus socialization effects. *Journal of Personality and Social Psychology*, 106(1), 13–147. <https://doi.org/10.1037/a0034818>

- Bègue, L., & Apostolidis, T. (2000). The 1999 Balkan War: Changes in ratings of values and pro war attitudes among French students. *Psychological Reports, 86*(3_part_2), 1127–1133. <https://doi.org/10.2466/pr0.2000.86.3c.1127>
- Caprara, G. V., & Steca, P. (2007). Prosocial agency: The contribution of values and self-efficacy beliefs to prosocial behavior across ages. *Journal of Social and Clinical Psychology, 26*(2), 218–239. <https://doi.org/10.1521/jscp.2007.26.2.218>
- Daniel, E., Bardi, A., Fischer, R., Benish-Weisman, M., & Lee, J. A. (2022). Changes in personal values in pandemic times. *Social Psychological and Personality Science, 13*(2), 572–582. <https://doi.org/10.1177/19485506211024026>
- Daniel, E., Bilgin, A. S., Brezina, I., Strohmeier, C. E., & Vainre, M. (2015). Values and helping behavior: A study in four cultures. *International Journal of Psychology, 50*(3), 186–192. <https://doi.org/10.1002/ijop.12086>
- Daniel, E., Fortuna, K., Thrun, S. K., Cioban, S., & Knafo, A. (2013). Brief report: Early adolescents' value development at war time. *Journal of Adolescence, 36*(4), 651–655. <https://doi.org/10.1016/j.adolescence.2013.03.009>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum. <http://dx.doi.org/10.1007/978-1-4899-2271-7>
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- Dinas, E. (2013). Opening "openness to change" political events and the increased sensitivity of young adults. *Political Research Quarterly, 66*(4), 868–882. <http://www.jstor.org/stable/23612064>
- Doran, C. J. (2009). The role of personal values in fair trade consumption. *Journal of Business Ethics, 84*(4), 549–563. <https://doi.org/10.1007/s10551-008-9724-1>
- Fritzsche, D. J. (1995). Personal values: Potential keys to ethical decision making. *Journal of Business Ethics, 14*(11), 909–922. <http://www.jstor.org/stable/25072711>
- Fritzsche, D., & Oz, E. (2007). Personal values' influence on the ethical dimension of decision making. *Journal of Business Ethics, 75*(4), 335–343. <http://www.jstor.org/stable/25123999>
- Gao, E., Zuo, X., Wang, L., Lou, C., Cheng, Y., & Zabin, L. S. (2012). How does traditional Confucian culture influence adolescents' sexual behavior in three Asian cities? *Journal of Adolescent Health, 50*(3), S12–S17. <http://dx.doi.org/10.1016/j.jadohealth.2011.12.002>
- Gaunt, R. (2005). The role of value priorities in paternal and maternal involvement in child care. *Journal of Marriage and Family, 67*(3), 643–655. <http://www.jstor.org/stable/3600194>
- Goodwin, R., Polek, E., & Bardi, A. (2012). The temporal reciprocity of values and beliefs: A longitudinal study within a major life transition. *European Journal of Personality, 26*(3), 360–370. <https://doi.org/10.1002/per.844>
- Goodwin, R., Realo, A., Kwiatkowska, A., Kozlova, A., Luu, L. A. N., & Nizharadze, G. (2002). Values and sexual behaviour in central and eastern Europe. *Journal of Health Psychology, 7*(1), 45–56. <https://doi.org/10.1177/1359105302007001651>
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin, 22*(3), 280–287. <https://doi.org/10.1177/0146167296223006>

- Katz-Wise, S. L., Priess, H. A., & Hyde, J. S. (2010). Gender-role attitudes and behavior across the transition to parenthood. *Developmental Psychology, 46*(1), 18–28. <https://doi.org/10.1037/a0017820>
- Kinnier, R. T., Tribbensee, N. E., Rose, C. A., & Vaughan, S. M. (2001). In the final analysis: More wisdom from people who have faced death. *Journal of Counseling & Development, 79*(2), 171–177. <https://doi.org/10.1002/j.1556-6676.2001.tb01957.x>
- Krosnick, J. A., & Alwin, D. F. (1989). Aging and susceptibility to attitude change. *Journal of Personality and Social Psychology, 57*(3), 416–425. <https://doi.org/10.1037/0022-3514.57.3.416>
- Lee, J. A., Sneddon, J. N., Daly, T. M., Schwartz, S. H., Soutar, G. N., & Louviere, J. J. (2019). Testing and extending Schwartz refined value theory using a best–worst scaling approach. *Assessment, 26*(2), 166–180. <https://doi.org/10.1177/1073191116683799>
- Lee, P. Y., Lusk, K., Miroso, M., & Oey, I. (2014). The role of personal values in Chinese consumers' food consumption decisions. A case study of healthy drinks. *Appetite, 73*, 95–104. <https://doi.org/10.1016/j.appet.2013.11.001>
- Murphy, E. F., Gordon, J. D., & Mullen, A. (2004). A preliminary study exploring the value changes taking place in the United States since the September 11, 2001 terrorist attack on the World Trade Center in New York. *Journal of Business Ethics, 50*(1), 81–96. <https://doi.org/10.1023/B:BUSI.0000020879.93654.86>
- Murphy, E. F., Woodhull, M. D., Post, B., Murphy-Post, C., Teeple, W., & Anderson, K. A. (2006). 9/11 impact on teenage values. *Journal of Business Ethics, 69*(4), 399–421. <https://doi.org/10.1007/s10551-006-9098-1>
- Nishio, C., Ishida, M., & Takeuchi, T. (2014). The impact of natural disasters on the values and lifestyles of consumers: In the case of the Tohoku Earthquake. *Journal of Global Scholars of Marketing Science, 24*(2), 172–188. <https://doi.org/10.1080/21639159.2014.881114>
- Noyes Jr, R. (1980). Attitude change following near-death experiences. *Psychiatry, 43*(3), 234–242. <https://doi.org/10.1080/00332747.1980.11024070>
- Oishi, S., Yagi, A., Komiya, A., Kohlbacher, F., Kusumi, T., & Ishii, K. (2017). Does a major earthquake change job preferences and human values? *European Journal of Personality, 31*(3), 258–265. <https://doi.org/10.1002/per.2102>
- Piurko, Y., Schwartz, S. H., & Davidov, E. (2011). Basic personal values and the meaning of left-right political orientations in 20 countries. *Political Psychology, 32*(4), 537–561. <https://doi.org/10.1111/j.1467-9221.2011.00828.x>
- Priest, R., Fullerton, T., & Bridges, C. (1982). Personality and value changes in West Point cadets. *Armed Forces & Society, 8*(4), 629–642. <http://www.jstor.org/stable/45346281>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Ryan, R. M., Sheldon, K. M., Kasser, T., & Deci, E. L. (1996). All goals are not created equal: An organismic perspective on the nature of goals and their regulation. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 7–26). The Guilford Press.
- Schuster, C., Pinkowski, L., & Fischer, D. (2019). Intra-individual value change in adulthood: A systematic literature review of longitudinal studies assessing Schwartz's value orientations. *Zeitschrift für Psychologie, 227*(1), 42–52. <https://doi.org/10.1027/2151-2604/a000355>

- Sneddon, J., Daniel, E., Fischer, R., & Lee, J. A. (2022). The impact of the COVID-19 pandemic on environmental values. *Sustainability Science*, *17*(5), 2155–2163. <https://doi.org/10.1007/s11625-022-01151-w>
- Sonmez, F. (2022). How thoughts of death and intrinsic/extrinsic goal orientation affect well-being during the pandemic. *Journal of Consumer Affairs*, *56*(1), 292-318. <https://doi.org/10.1111/joca.12411>
- Sonmez, F. (2023). Psychometric properties of the Turkish version of the Aspiration Index and the relationship between aspirations and subjective well-being. *International Journal of Happiness and Development*, *8*(1), 28-43. <https://doi.org/10.1504/IJHD.2023.131527>
- Sutherland, C. (1990). Changes in religious beliefs, attitudes, and practices following near-death experiences: An Australian study. *Journal of Near-Death Studies*, *9*(1), 21–31. <https://doi.org/10.1007/BF01074098>
- Vail III, K. E., Horner, D. E., Waggoner, B., & Conti, J. P. (2019). Pushing up daisies: Goal orientations, death awareness, and satisfaction with life. *Journal of Experimental Social Psychology*, *85*, 103891. <https://doi.org/10.1016/j.jesp.2019.103891>
- Vecchione, M., Caprara, G., Dentale, F., & Schwartz, S. H. (2013) Voting and values: Reciprocal effects over time. *Political Psychology*, *34*(4), 465–485. <https://doi.org/10.1111/pops.12011>
- Vecchione, M., Schwartz, S. H., Caprara, G. V., Schoen, H., Cieciuch, J., Silvester, J., & Alessandri, G. (2015). Personal values and political activism: A cross-national study. *British Journal of Psychology*, *106*(1), 84–106. <https://doi.org/10.1111/bjop.12067>
- Vecchione, M., Schwartz, S. H., Davidov, E., Cieciuch, J., Alessandri, G., & Marsicano, G. (2020). Stability and change of basic personal values in early adolescence: A 2-year longitudinal study. *Journal of Personality*, *88*(3), 447–463. <https://doi.org/10.1111/jopy.12502>
- Vecchione, M., Schwartz, S., Alessandri, G., Döring, A. K., Castellani, V., & Caprara, M. G. (2016) Stability and change of basic personal values in early adulthood: An 8-year longitudinal study. *Journal of Research in Personality*, *63*, 111–122. <https://doi.org/10.1016/j.jrp.2016.06.002>
- Zeno Group. (2020, April). *An historic moment: The values shift in pandemic America*. https://instituteforpr.org/wp-content/uploads/Zeno-Group-Values-Refresh-Study_FINAL.pdf